

## ABSTRACT

In radio transmission systems with point-to-point and point-to-multipoint topology a master station and one or several peripheral stations are defined as well as a downstream channel from the master station to the peripheral stations and an upstream channel from the peripheral stations to the master station. In such systems, in order to send traffic to several peripheral stations, the downstream channel is used by the master station in time division multiplexing.

In some cases, the modulation type and the forward error correction, jointly called phy mode, depend on the addressed terminal. These systems are called adaptive phy mode systems.

The present invention relates to adaptive phy mode systems, and it defines a power control technique for the terminal stations that also commands the phy mode switching and optimizes the system in terms of coverage and capacity. In particular the peripheral stations transmit with the several phy modes so that the signals are received at the master station making a performance related parameter equal. Then a hysteresis is defined which regulates the phy mode switching, setting suitable power thresholds of the signal.